Chevron

Chevron Products Company
6001 Bollinger Canyon Road
Building L
San Ramon, CA 94583
P.O. Box 6004
San Ramon, CA 94583-0904

Marketing – Sales West
Phone 510 842-9500

April 23, 1997

Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Chevron Service Station # 9-4800
1700 Castro Street
Oakland, California

Dear Ms. Eberle:

Enclosed is a copy of the **Work Plan for Monitoring Well Installation, prepared** by our consultant Gettller-Ryan Inc. for the above noted site. This workplan is submitted in response to your request, letter of March 24, 1997, to perform a Soil and Water Investigation at this site.

Three 2- inch groundwater monitoring wells will be installed at the boring locations CB-6 and CB-11 and near the fill ends of the storage tanks. These are the locations the we had previously discussed. Soil and groundwater samples will be taken to evaluate the soil and groundwater conditions and will be analyzed for TPH-g, TPH-d, BTEX and MtBE constituents.

Upon your approval of this Work Plan, Chevron will proceed with the installation of the monitoring wells and the evaluation of the site for petroleum hydrocarbon constituents. If you have any questions or comments, call me at (510) 842-9136.

Sincerely,
CHEVRON PRODUCTS COMPANY

Philip R. Briggs
Site Assessment and Remediation Project Manager

Enclosure

cc. Bill Scudder, Chevron

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

Post-It™ brand transmittal memo 7671	# of pages ▸
To Steve Carter	From J. Eberle
Co.	Co.
Dept.	Phone #
Fax #	Fax #

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

March 24, 1997
STID 3644

Phil Briggs
Chevron USA Inc.
PO Box 5004
San Ramon CA 94583-0804

RE: Chevron Service Station #9-4800, 1700 Castro St., Oakland CA 94612

Dear Mr. Briggs,

As you know, five soil samples were collected at 4'bgs below the five dispensers on 2/18/97. The samples were analyzed for TPH-g, TPH-d, and BTEX. Maximum concentrations included 15 mg/kg benzene, 550 mg/kg TPHg, and 220 mg/kg TPHd. To assess the extent of the contamination, 12 borings were hand-augered on 2/21/97 and 2/22/97. The maximum depth explored and sampled was 10'bgs. Groundwater was apparently not encountered. Results from these borings indicate maximum concentrations of 3.0 mg/kg benzene, 890 mg/kg TPHg, and 640 mg/kg TPHd.

Due to the elevated concentrations of hydrocarbons in the soil, **you are requested to perform a Soil and Water Investigation (SWI),** as per Sect. 2724 of Chapter 16, Division 3, Title 23, California Code of Regulations. **Please submit a workplan for a SWI within 60 days, or by May 24, 1997. As per our telecon of 3/24/97, the SWI should include three groundwater monitoring wells, the locations of which we discussed in detail.** Groundwater samples should be analyzed for TPHg, TPHd, BTEX, and MTBE. Soil samples should also be collected, particularly in the capillary fringe, and analyzed for the same constituents.

If you have any questions, please contact me directly at 510-567-6761.

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Steve Carter, Gettler-Ryan, ~~3035 Prospect Park Dr., Suite 80,~~ Rancho Cordova CA 95670
3164 Gold Camp Dr, Ste 240,
J. Eberle/file

je.3644

fax 916 631-1317

GETTLER-RYAN INC.

WORK PLAN FOR MONITORING WELL INSTALLATION

at

Chevron Service Station #9-4800
1700 Castro Street
Oakland, California

Report No. 6383.02-1

Prepared for:

Mr. Phil Briggs
Chevron Products Company
P.O. Box 6004
San Ramon, California 94583

Prepared by:

Gettler-Ryan Inc.
6747 Sierra Court, Suite J
Dublin, California 94568

Barbara Sieminski
Project Geologist

Stephen J. Carter
Senior Geologist
R.G. 5577

REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

April 18, 1997

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GETTLER-RYAN INC.

WORK PLAN FOR WELL INSTALLATION

at

Chevron Service Station #9-4800
1700 Castro Street
Oakland, California

Report No. 6383.02

INTRODUCTION

At the request of Chevron Products Company (Chevron), Gettler-Ryan Inc. (GR), has prepared this Work Plan for the installation of three groundwater monitoring wells to further evaluate soil and groundwater conditions beneath the subject site. The proposed work includes: updating the site safety plan; obtaining the required well installation permit; installing three on-site groundwater monitoring wells; surveying wellhead elevations; developing and sampling the wells; collecting and submitting selected soil and groundwater samples for chemical analysis; arranging for Chevron's contractor to dispose of the waste materials; and preparing a report presenting the observations associated with the well installation. This scope of work is in response to the Alameda County Health Care Services Agency (ACHCSA) letter dated March 24, 1997, requesting a Soil and Water Investigation (SWI) be performed at the subject site.

The scope of work proposed in this Work Plan is intended to comply with the State of California Water Resources Control Board's *Leaking Underground Fuel Tanks (LUFT) Manual* and *California Underground Storage Tank Regulations, 1994*, the Regional Water Quality Control Board's (RWQCB) *Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites*, and the ACHCSA guidelines.

SITE DESCRIPTION

The subject site is an active Chevron Service Station located on the parcel bordered by Castro Street to the northwest, 18th Street to the northeast and 17th Street to the southwest in Oakland, California (Figure 1). Aboveground facilities consists of a station building and five dispenser islands. Four underground storage tanks (USTs) share a common pit located near the northern corner of the site. Site features are shown on Figure 2. The local topography is relatively flat at an elevation of approximately 30 feet above mean sea level. Based on the site topography, the regional groundwater flow in the vicinity of the site is inferred to be toward the west.

?

6747 Sierra Court, Suite J • Dublin, California 94568 • (510) 551-7555

PREVIOUS WORK

Five dispenser islands were upgraded in February 1997. On February 18, 1997, one soil sample was collected beneath each of the five dispenser islands at the depth of 4 feet below ground surface (bgs). These samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg), for Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX), and for Total Petroleum Hydrocarbons as diesel (TPHd). TPHg (5.9 to 550 parts per million [ppm]) were detected in four samples, TPHd (1.9 to 220 ppm) were detected in four samples, and benzene (0.016 to 15 ppm) were detected in four samples. Highest concentrations of hydrocarbons were detected in samples collected beneath the central and ~~southern~~ eastern dispenser islands.

On February 21 and 22, 1997, GR hand-augered 12 soil borings to the maximum depth of 10 feet bgs to assess the extent of the contamination beneath the site. Groundwater was not encountered in the borings. TPHg were detected in five samples (1.9 to 890 ppm), TPHd were detected in six samples (1.0 to 640 ppm), and benzene was detected in 12 samples (0.011 to 3.0 ppm). Hydrocarbon impact was delineated vertically and laterally except to the southwest of the central dispenser island and vertically beneath the ~~southern~~ eastern dispenser island.

PROPOSED SCOPE OF WORK

GR proposes to install three groundwater monitoring wells to further assess soil and groundwater condition beneath the subject site. To perform this scope of work, GR proposes the following tasks:

Task 1. Pre-Field Activities

Update the site-specific safety plan, obtain the necessary well installation permit from the Zone 7 Water Agency, and notify Underground Service Alert (USA) a minimum of 48 hours prior to drilling.

Task 2. Well Installation

Install three groundwater monitoring wells (MW-1 through MW-3) at the locations shown on Figure 2. Drilling and well construction activities will be performed by Bay Area Exploration Inc. (C57 #522125). A GR geologist will observe drilling, collect soil samples for chemical analyses, describe the encountered soil, and prepare a log of each boring. Well borings will be advanced using 8-inch-diameter hollow stem augers and truck mounted drill rig.

Groundwater monitoring wells MW-1 through MW-3 will be constructed of 2-inch-diameter Schedule 40 polyvinyl chloride (PVC) well casing and 0.01-inch machine slotted PVC well screen. The screened interval will extend from approximately 10 feet bgs to 30 feet bgs. Proposed Well Construction Details are shown on Figure 3.

Soil from each sampled interval will be screened in the field for the presence of volatile organic compounds using a photoionization detector (PID). These data will be collected for reconnaissance purposes only, and will not be used as verification of the presence or absence of petroleum hydrocarbons. Screening data will be recorded on the boring logs.

Soil samples for description and possible chemical analysis will be obtained from the borings at five-foot intervals, as a minimum. Sample handling procedures are described in Appendix A. Although the actual number of samples submitted for chemical analysis will depend on site conditions and field screening data, we anticipate a minimum of one unsaturated soil sample from each boring will be submitted for chemical analysis as described in Task 5.

Drill cuttings will be stockpiled at the site pending disposal. Stockpiled cuttings will be placed on and covered with plastic sheeting. Four soil samples from the drill cuttings will be collected for disposal characterization as described in Appendix A. These samples will be submitted to the laboratory for compositing into one sample, then analyzed as described in Task 5. Drill cuttings will be disposed of by Integrated Wastestream Management Inc. (IWM).

Task 3. Wellhead Survey

Following installation , the top of well casing will be surveyed to mean sea level by a California-licensed surveyor.

Task 4. Well Development and Sampling

The newly installed groundwater monitoring wells will be developed after being allowed to stand a minimum of 72 hours following installation. Groundwater samples will be collected immediately upon completion of well development. Rinsate water and groundwater purged from the wells during development and sampling will be transported by IWM to McKittrick Waste Management. The groundwater samples will be analyzed as described in Task 5. Well development and groundwater sampling procedures are described in Appendix A.

Task 5. Laboratory Analyses

All samples will be submitted to a California-certified Hazardous Materials Testing Laboratory. Soil and groundwater samples will be analyzed for TPHg, TPHd, BTEX, and Methyl-T-Butyl Ether (MTBE) by EPA Methods 5030/8015/8020, and for TPHd by EPA method 3050/8015.

Disposal characterization samples from the soil stockpile will be analyzed for TPHg, TPHd, BTEX, and total lead.

Task 6. Reporting

Following receipt and analysis of all data, a report will be prepared which summarizes the procedures and the results associated with this investigation. This report will be submitted to Chevron for their use and distribution.

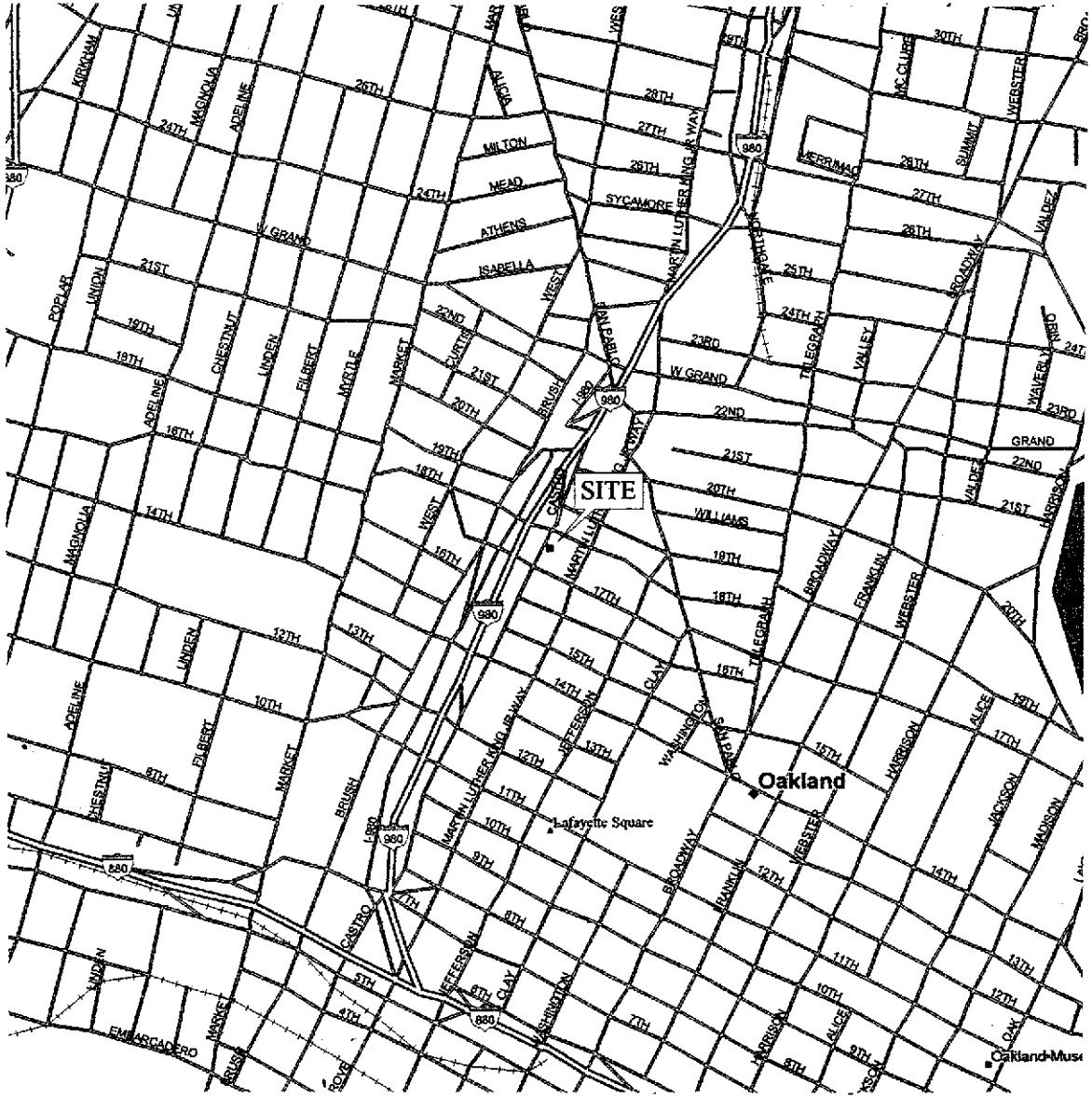
PROJECT STAFF

Mr. Stephen J. Carter, a Registered Geologist in the State of California (R.G. No. 5577), will provide technical oversight and review of the work. Mr. Greg Gurss, Project Manager, will supervise and direct field and office operations. GR employs a staff of geologist, engineers, and technicians who will assist with the project.

SCHEDULE

Implementation of the proposed scope of work will commence upon receipt of regulatory approval and a well installation permit.

FIGURES



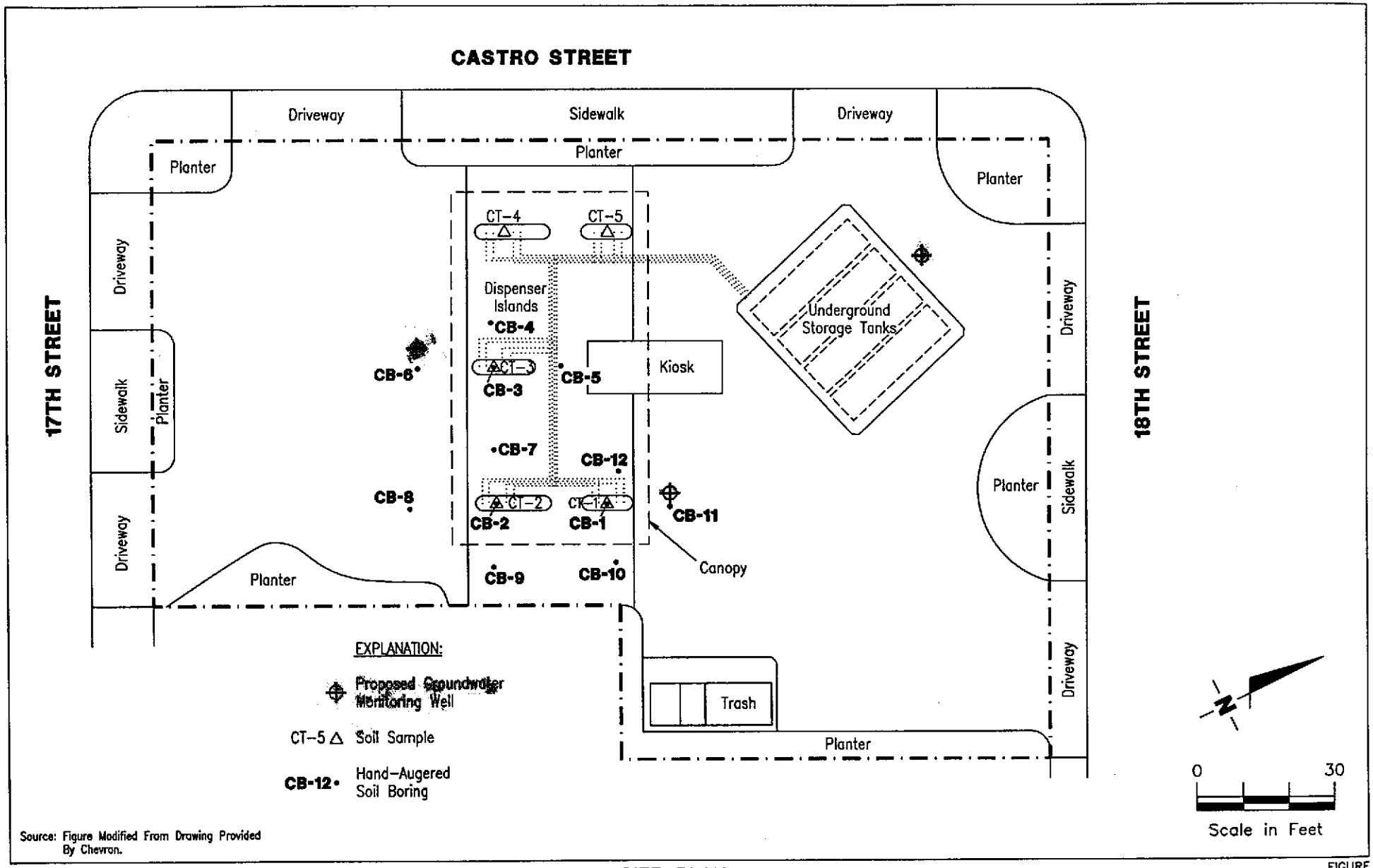
Source: Street Atlas USA, Delorme (1995).

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (510) 551-7555
Dublin, CA 94568

VICINITY MAP
Chevron Service Station No. 9-4800
1700 Castro Street
Oakland, California

FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
6383		2/97	



Source: Figure Modified From Drawing Provided By Chevron.

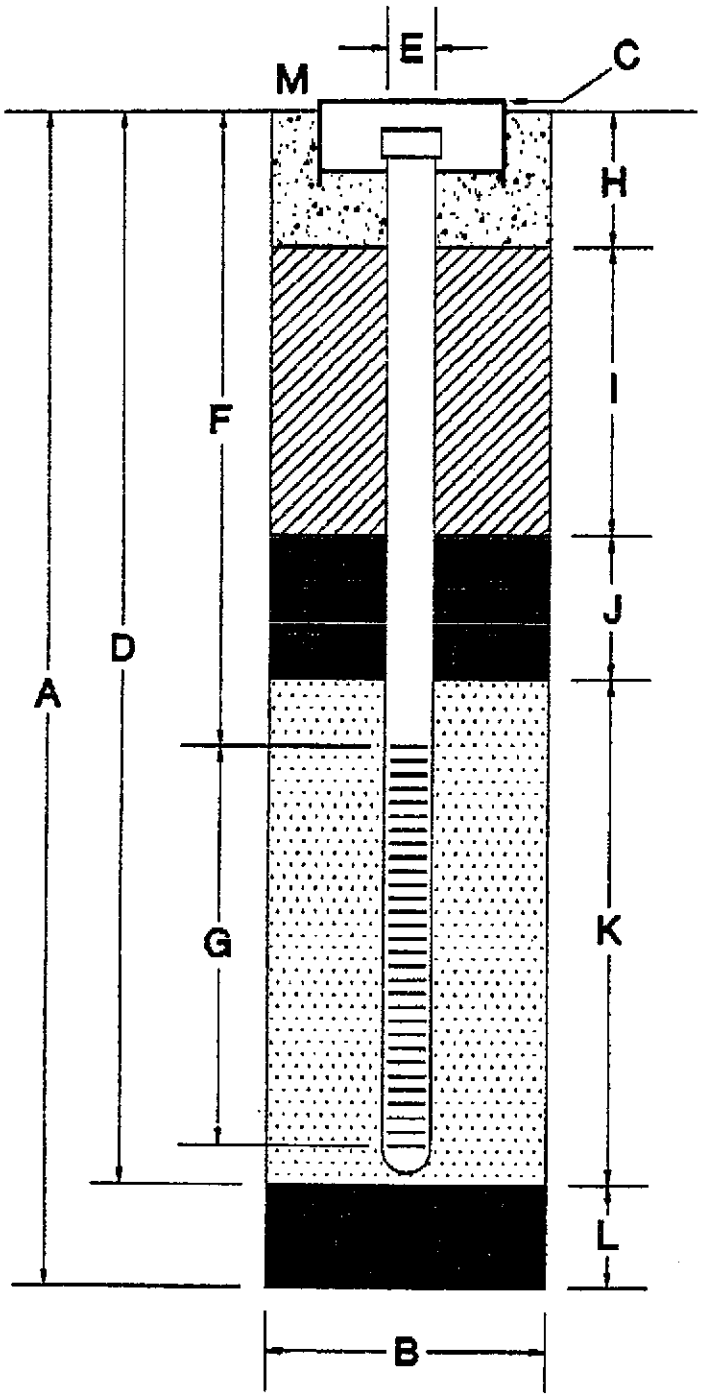
Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (510) 551-7555
Dublin, CA 94568

SITE PLAN
Chevron Service Station No. 9-4800
1700 Castro Street
Oakland, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
6383		2/97	4/97

WELL CONSTRUCTION DETAIL



A Total Depth Of Boring 30 ft.

B Diameter Of Boring 8 in.
Drilling Method Hollow Stem Auger

C Top Of Box Elevation _____ ft.
☐ Referenced To Mean Sea Level
☐ Referenced To Project Datum

D Casing Length 30 ft.
Material Schedule 40 PVC

E Casing Diameter 2 in.

F Depth To Top Perforations 10 ft.

G Perforated Length 20 ft.
Perforated Interval From 10 to 30 ft.
Perforation Type Machine Slot
Perforation Size 0.01 in.

H Surface Seal From 0 to 1 ft.
Seal Material Concrete

I Backfill From 1 to 8 ft.
Backfill Material Neat Cement

J Seal From 8 to 9 ft.
Seal Material Bentonite

K Gravel Pack From 9 to 30 ft.
Pack Material Lonestar Sand #2/12

L Bottom Seal None ft.
Seal Material _____

M Water-resistant vault box, waterproof locking well cap and lock

Note: Depths Measured From Initial Ground Surface.

Gettler - Ryan Inc.
3164 Gold Camp Drive, Suite 240
Rancho Cordova, CA 95670

Chevron Service Station #9-4800
1700 Castro Street
Oakland, California

Figure 3

JOB NUMBER | REVIEWED BY | DATE | REVISION DATE

APPENDIX A

GR FIELD METHODS AND PROCEDURES

GETTLER - RYAN
FIELD METHODS AND PROCEDURES

Site Safety Plan

Field work performed by Gettler-Ryan, Inc. (GR) is conducted in accordance with GR's Health and Safety Plan and the Site Safety Plan. GR personnel and subcontractors who perform work at the site are briefed on the of these plans contents prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Soil Samples

Exploratory soil borings are drilled by a California-licensed well driller. A GR geologist is present to observe the drilling, collect soil samples for description, physical testing, and chemical analysis, and prepare a log of the exploratory soil boring. Soil samples are collected from the exploratory soil boring with a split-barrel sampler or other appropriate sampling device fitted with clean brass or stainless steel liners. The sampling device is driven approximately 18 inches with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler each successive 6 inches is recorded on the boring log. The encountered soil is described using the Unified Soil Classification System (ASTM 2488-84) and the Munsell Soil Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Samples are selected for chemical analysis based on:

a. depth relative to underground storage tanks and existing ground surface
b. depth relative to known or suspected groundwater
c. presence or absence of contaminant migration pathways
d. presence or absence of discoloration or staining
e. presence or absence of obvious gasoline hydrocarbon odors
f. presence or absence of organic vapors detected by headspace analysis

Field Screening of Soil Samples

A PID is used to perform head-space analysis in the field for the presence of organic vapors from the soil sample. This test procedure involves removing some soil from one of the sample tubes not retained for chemical analysis and immediately covering the end of the tube with a plastic cap. The PID probe is inserted into the headspace inside the tube through a hole in the plastic cap. Head-space screening results are recorded on the boring log. Head-space screening procedures are performed and results recorded as reconnaissance data. GR does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Stockpile Sampling

Stockpile samples consist of four individual sample liners collected from each 100 cubic yards (yd^3) of stockpiled soil material. Four arbitrary points on the stockpiled material are chosen, and discrete soil sample is collected at each of these points. Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless steel or brass tube into the stockpiled material with a wooden mallet or hand driven soil sampling device. The sample tubes are then covered on both ends with teflon sheeting or aluminum foil, capped,

labeled, placed in the cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Construction of Monitoring Wells

Monitoring wells are constructed in the exploratory borings with Schedule 40 polyvinyl Chloride (PVC) casing. All joints are thread-joined; no glues, cements, or solvents are used in well construction. The screened interval is constructed of machine-slotted PVC well screen which generally extends from the total well depth to a point above the groundwater. An appropriately-sized sorted sand is placed in the annular space adjacent to the entire screened interval. A bentonite transition seal is placed in the annular space above the sand, and the remaining annular space is sealed with neat cement or cement grout.

Wellheads are protected with water-resistant traffic rated vault boxes placed flush with the ground surface. The top of the well casing is sealed with a locking cap. A lock is placed on the well cap to prevent vandalism and unintentional introduction of materials into the well.

Storing and Sampling of Drill Cuttings

Drill cuttings are stockpiled on plastic sheeting or stored in drums depending on site conditions and regulatory requirements. Stockpile samples are collected and analyzed on the basis of one composite sample per 50 cubic yards of soil. Stockpile samples are composed of four discrete soil samples, each collected from an arbitrary location on the stockpile. The four discrete samples are then composited in the laboratory prior to analysis.

Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless or brass sample tube into the stockpiled material with a hand, mallet, or drive sampler. The sample tubes are then covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Wellhead Survey

The top of the newly-installed well casing is surveyed by a California-licensed Land Surveyor to mean sea level (MSL).

Well Development

The purpose of well development is to improve hydraulic communication between the well and surrounding aquifer. Prior to development, each well is monitored for the presence of separate-phase hydrocarbons and the depth-to-water is recorded. Wells are then developed by alternately surging the well with the bailer, then purging the well with a pump to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized.